REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the specific grounds of rejection raised in the present Office Action, applicants have amended Claim 31 to positively recite that the substrate is selected from the group consisting of single crystal silicon, diamond, quartz, crystalline oxides, crystalline or amorphous nitrides, amorphous or glassy oxides, and organic-inorganic composites. Support for this amendment to Claim 31 is found at Page 10, lines 20-25 as well as Claim 39. This amendment to Claim 31 makes Claim 39 redundant. Thus, Claim 39 has been cancelled herein.

Applicants have also amended Claim 31 to positively recite the types of semiconductor devices that can be present in the semiconductor layer. These devices include digital devices, analog devices, n-type metal-oxide-semiconductor devices (NMOS), p-type MOS (PMOS) devices, complementary MOS (CMOS) devices, bipolar transistors, bipolar and CMOS (BiCMOS) devices, SiGe bipolar or field effect devices, integrated passive devices, Micro Electro Mechanical devices, voltage control oscillators, upconverters or downconverters. Support for this amendment to Claim 31 is found at Page 9, lines 19-25 as well as Claim 33. This amendment to Claim 31 makes Claim 33 redundant. Thus, Claim 33 has been cancelled herein.

Since the above amendments to Claim 31 are fully supported by the specification of the instant application, entry thereof is respectfully requested.

In the present Office Action, Claims 31, 32, 35, 36, 38 and 39 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent Application Publication

No. 2002/000242 A1 to Matushiita, et al. ("Matushiita, et al."). Claims 33, 37 and 40 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of Matushiita, et al. and U.S. Patent No. 6,100,166 to Sakaguchi, et al. ("Sakaguchi, et al."). Claim 34 is rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of Matushiita, et al. and U.S. Patent No. 6,350,945 to Mizuno ("Mizuno").

Concerning the § 102(e) rejection, it is axiomatic that anticipation under §102 requires that the prior art reference disclose each and every element of the claim to which it is applied. In re King, 801 F.2d, 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1996). Thus, there must be no differences between the subject matter of the claim and the disclosure of the prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: Absence from the applied reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

Applicants respectfully submit that the claims of the present application are not anticipated by the disclosure of Matushiita, et al. since the applied reference does not disclose applicants' claimed structure recited in amended Claim 31. Specifically, Matushiita, et al. do not disclose an integrated circuit that includes a substrate selected from the group consisting of single crystal silicon, diamond, quartz, crystalline oxides, crystalline or amorphous nitrides, amorphous or glassy oxides, and organic-inorganic composites, an adhesive layer over said substrate, and a semiconductor layer on said adhesive layer, said semiconductor layer comprising at least one semiconductor device in

said semiconductor layer, said semiconductor device formed in said semiconductor layer prior to bonding said semiconductor layer to the said adhesive layer and is selected from the group consisting of digital devices, analog devices, n-type metal-oxide-semiconductor devices (NMOS), p-type MOS (PMOS) devices, complementary MOS (CMOS) devices, bipolar transistors, bipolar and CMOS (BiCMOS) devices, SiGe bipolar or field effect devices, integrated passive devices, Micro Electro Mechanical devices, voltage control oscillators, upconverters and downconverters.

Matushiita, et al. provide a method of forming a thin-film semiconductor device such as a thin film single-crystal solar cell which includes an upper plastic substrate 170 that is fixed to a first surface of a semiconductor layer 120 that includes components of a solar cell 140, 150 and 160 via an adhesion layer 171. The opposite surface of the semiconductor layer is fixed to a lower plastic layer 173 by an adhesive layer 172. Applicants observe that Matushiita, et al. do not disclose that the substrates 170 or 171 are other types of substrates besides plastic substrates and thus the applied reference does not anticipate the claimed invention in which the substrate is selected from one of the types mentioned in Claim 31.

Moreover, Matushiita, et al. do not disclose that the semiconductor layer includes one of the claimed types of semiconductor devices recited in Claim 31. Instead, the semiconductor layer includes components of a solar cell which are not among the types of semiconductor devices presently claimed.

The foregoing remarks clearly demonstrate that the applied reference do not teach each and every aspect of the claimed invention, as required by King and Kloster Speedsteel; therefore the claims of the present application are not anticipated by the

disclosure of Matushiita, et al. Applicants respectfully submit that the instant §102 rejection has been obviated and withdrawal thereof is respectfully requested.

Turning to the various § 103 rejections, applicants respectfully submit that the combined disclosures of Matushiita, et al. and Sakaguchi, et al. or Mizuno do not render the claimed structure unpatentable. Specifically, none of the applied references teach or suggest the claimed structure including the elements now recited in Claim 31.

The principal reference spurring each of the obviousness rejections, i.e., Matushiita, et al., is defective for the reasons mentioned above in regard to the anticipation rejection. Thus, those remarks are incorporated herein by reference. To reiterate: Matushiita, et al. do not teach or suggest an integrated circuit structure that includes the types of substrates and semiconductor devices recited in Claim 31. Moreover, Matushitta, et al. provide no motivation to replace their disclosed solar cell thin-film device with one of the claimed semiconductor devices, or to replace their disclosed plastic substrate with one of the claimed substrates.

Sakaguchi, et al., which provide a process for producing a semiconductor article that can be suitably used for producing a semiconductor devices such as a semiconductor integrated circuit, a solar cell, a semiconductor laser device or a light emitting diode, does not alleviate the above defects in Matushitta, et al. Specifically and in broad terms, Sakaguchi, et al. disclose using a film such as an adhesive film as a means for removing a porous Si layer from a substrate. The various embodiments provided in the Sakaguchi, et al. disclosure do not teach or suggest the claimed structure. In particular, the applied reference does not teach or suggest a structure that includes an adhesive layer between one of the claimed substrates and a semiconductor layer including one of the claimed

semiconductor devices formed thereon prior to bonding. In Sakaguchi, et al., the adhesive film can be used as the substrate itself or it can be removed after performing a further layer transfer process. Applicants also observe that in the prior art the semiconductor devices are formed on the semiconductor layer after layer transfer.

As such, applicants claimed structures are not rendered unpatentable by the disclosures of Matushiita, et al. and Sakaguchi, et al.

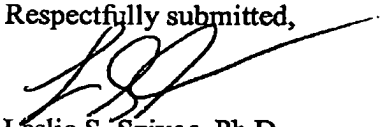
Mizuno, which provides a thin film semiconductor device capable of improving the optical absorption efficiency of a single crystal silicon thin film solar battery, does not alleviate the above defect in Matushiita, et al. since the applied reference also does not teach or suggest one of the claimed semiconductor substrates and devices now recited in Claim 31. Instead, Mizuno discloses a plastic substrate and the device is a solar cell. As such, the combined disclosures of Matushiita, et al. and Mizuno do not render applicants' claimed structure obvious.

The § 103 rejections also fail because there is no motivation in the prior art that suggests modifying the disclosed structure to include the features recited in Claim 31. Thus, there is no motivation provided in the applied reference, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Vaeck*, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejections under 35 U.S.C. § 103 have been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Wherefore, consideration and allowance of the claims of the present application are respectfully requested.

Respectfully submitted,



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